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12 POLYCHLORINATED BIPHENYLS (PCBs)

Synopsis

The purpose of this section is to provide guidance relative to the management and disposal of items containing polychlorinated biphenyls (PCBs).

The section applies to all NOAA facilities and work sites that have PCBs or PCB items.

Initial Implementation Requirements:

- **Designate an Individual to Coordinate the PCB Compliance Effort (12.5.2)**
- **Analyze Site Operations versus Requirements of this Section**
  - Determine if PCBs or items containing PCBs are in use at the facility (12.5.1 & Attachment A)
- **Prepare an Inventory of PCB Items Requiring Inspection (12.5.1)**
- **Perform Initial Inspections (12.5.1)**
- **Provide Training for Personnel.**

Recurring and Annual Task Requirements:

- **Inspect Daily, Weekly, Monthly, Quarterly or Annually as required (12.5.3)**
- **Maintain Inspection Logs (12.5.5)**
- **Report all Spills over the Reportable Quantity (10 pounds) to the National Response Center (12.6)**
- **Dispose of PCBs in accord with EPA/State Regulations.**
  - Maintain/inspect PCB items in temporary storage awaiting disposal (12.7.1
  - Select appropriate disposal option for each PCB item (12.7.2)

Checklist

12 Polychlorinated Biphenyls (PCBs)	YES	NO	N/A
1. Does the facility or work site have any PCBs or items containing PCBs in use or in storage? (12.5.1)	_____	_____	_____
2. If yes, has a PCB Program Coordinator been appointed? (12.5.2)	_____	_____	_____
3. Has a formal inventory of items requiring inspection been prepared? (12.5.1)	_____	_____	_____
4. Are daily, weekly, monthly, quarterly inspections performed as required? (12.5.3)	_____	_____	_____
5. Are all inspection logs maintained? (12.5.5)	_____	_____	_____
6. Are all spills over the 10-pound Reportable Quantity reported to the National Response Center? (12.6.2)	_____	_____	_____
7. Has an inquiry been made to the State by the NOAA RECO to determine if the State has different or additional requirements for the management and/or disposal of PCBs?	_____	_____	_____
8. Are all PCB items disposed in accord with EPA and/or State requirements? (12.7)	_____	_____	_____

12 POLYCHLORINATED BIPHENYLS (PCBs)

12.1 Purpose and Scope

The purpose of this section is to provide guidance to NOAA personnel in the management and disposal of polychlorinated biphenyls (PCBs) and PCB items.

The section applies to all NOAA facilities and work sites that use or have PCBs or PCB items such as old fluorescent ballasts or transformers.

12.1.1 While most NOAA facilities and work sites no longer have PCBs or items containing PCBs, some older facilities may still be using PCB-filled equipment and hence the guidance provided by this section will apply. This section will also apply should NOAA move to a site or facility where PCB removal has not yet occurred.

12.2 Definitions

Capacitor - means a device for accumulating and holding a charge of electricity and consisting of conducting surfaces separated by a dielectric. Types of capacitors are as follows:

a. **Small Capacitor** - a capacitor which contains less than 1.36 kg (3 lbs.) of dielectric fluid. The following assumptions may be used if the actual weight of the dielectric fluid is unknown. A capacitor whose total volume is less than 1,639 cubic centimeters (100 cubic inches) may be considered to contain less than 1.36 kg (3 lbs.) of dielectric fluid and a capacitor whose total volume is more than 3,278 cubic centimeters (200 cubic inches) must be considered to contain more than 1.36 kg (3 lbs.) of dielectric fluid. A capacitor whose volume is between 1,639 and 3,278 cubic centimeters may be considered to contain less than 1.36 kg (3 lbs.) of dielectric fluid if the total weight of the capacitor is less than 4.08 kg (9 lbs.).

b. **Large High Voltage Capacitor** - a capacitor which contains 1.36 kg (3 lbs.) or more of dielectric fluid and which operates at 2,000 volts (a.c. or d.c.) or above.

c. **Large Low Voltage Capacitor** - a capacitor which contains 1.36 kg (3 lbs.) or more of dielectric fluid and which operates below 2,000 volts (a.c. or d.c.).

Commercial Building - a non-industrial, non-substation building. Commercial buildings are typically accessible to both members of the general public and employees, and include: public assembly properties, institutional properties, residential properties, stores, office buildings and transportation centers (e.g. airport terminal buildings, subway stations, bus stations or train stations).

Designated Person - a NOAA employee assigned the task of coordinating the PCB management effort. This role need not be assigned to the Facility Environmental Coordinator. It may be assigned to another NOAA employee.

Designated Responsible Official (DRO) - the senior NOAA official on-site. This official has authority over operations or activities which are subject to environmental and worker safety statutes. The responsibility of the DROs is inherent in their position and need not be formally designated or ascribed.

Enhanced Electrical Protective System - a system to avoid transformer failures caused by sustained low current faults. Examples are: pressure sensors, temperature sensors, disconnect equipment.

Facility Environmental Coordinator (FEC) -the individual responsible for ensuring the activities carried out at a facility are conducted in accordance with Federal, state and local environmental regulations. Typically, each NOAA facility will have a designated FEC who is also responsible for compliance with occupational safety and health requirements. In the NWS, this individual is identified as the Environmental and/or Safety Focal Point

Higher Secondary Voltage - the secondary voltage is equal or greater than 480 volts including 480/277 volt systems.

In or Near Commercial Buildings - within the interior of, on the roof of, attached to the exterior wall of, in the parking area serving, or within 30 meters (about 98.5 feet) of a non-industrial, non-substation building.

KVA - kilovolt ampere, which is a measurement of the power capacity of a transformer.

Lower Secondary Voltage - the secondary voltage is below 480 volts including 280/120 volt systems.

Mark - an item contains PCBs, includes the descriptive name, instructions, cautions or other information applied to PCBs and PCB Items, or other objects subject to these rules.

Marked - the marking of PCB Items and PCB storage areas and transport vehicles by means of applying a legible mark by painting, fixation or an adhesive label or by any other method that meets the requirements of these rules that states the item contains PCBs.

Network PCB Transformer - a PCB transformer (greater than or equal to 500 ppm PCB) in a network system which is several transformers electrically connected in a network (Vice radial) configuration often used in vaults and buildings. A network transformer can be energized from either the primary or secondary winding. The secondary winding is the winding from which energy flows during normal operation. The primary winding can be energized from the secondary winding under abnormal conditions due to transformer interconnections. Determination of configuration can be made by an electrician using wiring diagrams.

Non-PCB Transformer - any transformer containing less than 50 ppm PCBs as determined by manufacturer certification or laboratory analysis.

PCB and PCBs - a chemical compound composed of or containing any of the various chlorinated biphenyl molecules. Unless it is otherwise specifically provided, the terms PCB and PCBs are used in this guide to refer to any chemical compound and combinations of compounds that contain 50 ppm (on a dry weight basis) or greater of PCBs, including any byproduct. Any materials that contain less than 50 ppm PCBs because of any dilution shall be included as PCB and PCBs unless otherwise specifically provided. Substances that are regulated by this rule include, but are not limited to, dielectric fluids, contaminated solvents, oils, waste oils, heat transfer fluids, hydraulic fluids, paints, sludges, slurries, dredge spoils, soils, materials contaminated as a result of spills and other chemical substances or combination of substances, including impurities and byproducts.

PCB Article - any manufactured article, other than a PCB Container, that contains PCBs and whose surface(s) has been in direct contact with PCBs. "PCB Article" includes capacitors, transformers, electric motors, pumps, pipes and any other manufactured item, (1) which is formed to a specific shape or design during manufacture, (2) which has end use function(s) dependent in whole or in part upon its shape or design during end use, and (3) which has either no change of chemical composition during its end use or only those changes of composition which have no commercial purpose separate from that of the PCB article.

PCB Container - means any package, can, bottle, bag, barrel, drum, tank or other device that contains PCBs or PCB Articles and whose surface (2) has been in direct contact with PCBs.

PCB Equipment - any manufactured item, other than a PCB Container or, which contains a PCB Article or other PCB Equipment, and includes microwave ovens, electronic equipment and fluorescent light ballasts and fixtures.

PCB Item - any PCB Article, PCB Container or PCB Equipment that contains or has as a part of it any PCB or PCBs at a concentration of 50 ppm or greater.

PCB Transformer - any transformer that contains 500 ppm PCB or greater.

PCB-Contaminated Electrical Equipment - any electrical equipment, including but not limited to transformers (including those used in railway locomotives and self-propelled cars), capacitors, circuit breakers, reclosers, voltage regulators, switches (including sectionalizers and motor starters), electromagnets and cable that contain 50 ppm or greater PCB, but less than 500 ppm PCB. Oil-filled electrical equipment other than circuit breakers, reclosures and cable whose PCB concentration is unknown are assumed to be PCB-Contaminated Electrical Equipment until proven otherwise.

ppm - a concentration in parts per million expressed as milligrams per kilogram (mg/kg).

Posing an exposure risk to food or feed product - any potential exposure of food and feed products to PCBs if there were leakage of dielectric fluid or if all the dielectric fluid in the transformer were discharged from the PCB unit.

Restricted Access - an area is fenced or walled-in to restrict public access.

Radial PCB Transformer - a transformer (usually a single) in a system with the distribution lines projecting from the one major transformer. A radial transformer can be energized only from the primary winding. This determination can be made by an electrician.

Reclassified - a process by which the concentration of PCBs in a PCB article has been reduced by replacing the dielectric fluid or other EPA-approved technique such that it now contains less than 500 parts per million PCBs.

12.3 Acronyms Employed in This Section

CFR	-	Code of Federal Regulations
DRO	-	Designated Responsible Official
EPA	-	Environmental Protection Agency
FEC	-	Facility Environmental Coordinator
NOAA	-	National Oceanic & Atmospheric Administration
NWS	-	National Weather Service
PCB	-	Polychlorinated Biphenyl

ppm	-	Parts Per Million
RCRA	-	Resource Conservation and Recovery Act
RECO	-	Regional Environmental Compliance Officer
TSCA	-	Toxic Substance Control Act

12.4 Regulatory Requirements

12.4.1 Federal Requirements

PCBs are regulated by the Environmental Protection Agency (EPA) under the authority of the Toxic Substance Control Act (TSCA). The EPA rules are found in 40 CFR 761.

Although similar to the disposal requirements for hazardous waste under the Resource Conservation and Recovery Act (RCRA), the PCB TSCA rules are **NOT** identical.

Most states do not have additional requirements for managing PCBs or PCB items, however some regulate the disposal of PCBs as hazardous waste and hence the NOAA Regional Environmental Coordinator or the Safety/ Environmental Coordinator and/or the NOAA Regional Environmental Compliance Officer (RECO) should be contacted to determine if additional requirements exist.

12.5 Program Implementation

12.5.1 Inventory of PCB/PCB Items

To determine if a NOAA facility or work site is regulated by the PCB rules, the first step is to perform an inspection of the facility to determine the presence of PCBs or PCB items.

The inspection will focus on determining if the electrical facility or station transformers contain PCBs but must include other electrical equipment such as large capacitors (containing over 3 lbs. of fluid) and oil-filled:

a. voltage regulators
b. switches
c. electromagnets
d. circuit breakers
e. reclosers, and
f. hydraulic equipment

The inspection should include checking a sampling of the ballasts in the fluorescent fixtures if installed prior to 1980. If a ballast is not marked “No PCBs,” it must be assumed to contain PCBs and its disposal - if leaking - will be regulated as a TSCA PCB waste. Personnel who service the lighting fixtures need this information.

Attachment A can be used to perform this inspection.

If a PCB transformer is identified, the transformer must be registered with the Environmental Protection Agency, National Program Chemicals Division, Office of Pollution Prevention and Toxics (7404), 401 “M” Street, SW, Washington, DC 20460. The registration must include:

a. Facility name and address
b. Contact name and telephone number
c. Address where transformers are located
d. Number of transformers and the total weight in kilograms of PCBs
e. Whether the transformers contain flammable dielectric fluid (optional)
f. Signature of the Facility Manager.

The facility/work site must retain a record of each PCB transformer registration (e.g., a copy of the registration and the return receipt signed by EPA) with the inspection and maintenance records required for each transformer.

Note: Because this notice was required to be submitted prior to December 28, 1998, the NOAA Regional Environmental Compliance Officer must be contacted prior to submitting this registration to the EPA.

12.5.2 Assign a Designated Person

If a NOAA facility or work site is determined to have any PCB-containing items, a NOAA employee will be assigned by the Facility Manager to coordinate the PCB compliance effort.

12.5.3 Periodic PCB Inspections

NOAA facilities or work sites that have PCB items in use must perform self-inspections to ensure compliance with the regulations. In addition, the PCB inspection program is an important part of the facility or work site PCB management program as it may be the primary means of discovering a leak or spill from a PCB item. The sooner a leak or spill is discovered the sooner the problem can be corrected, thus reducing the chance of significant negative impact on human health or the environment.

The TSCA regulations require that certain PCB items and storage areas be visually inspected on a regular basis. The regulations specify the frequency of inspections required for each type of item. The inspection requirements are summarized in Table 12-1. If an item is not listed on Table 12-1, there are no TSCA inspection requirements.

These inspection requirements range from daily to annually, based on the potential risk to human health and to the environment, if a leak or spill should occur. The following explanations are provided for each requirement.

a. Annual Inspections (yearly) are required for low risk PCB items, such as PCB transformers with one of the following risk reduction measures in place:

   (1) PCB transformer has impervious, undrained secondary containment capacity of at least 100 percent of the total dielectric fluid volume of all transformers so contained [40 CFR 761.30(a)(1)(v)(A)].

   (2) PCB transformer has been tested and found to contain less than 60,000 ppm PCBs (after at least 3 months of in service use if

transformer has been serviced for purposes of reducing the PCB concentration) [40 CFR 761.30(a)(1)(v)(B)].

b. Quarterly Inspections are required for PCB transformers with PCB concentration greater than 60,000 ppm (if tested) or if assumed to be PCB dielectric (askarel) based on nameplate information - that do not have sufficient secondary containment to meet reduced risk criteria (see explanation above). Quarterly inspections must be performed at least once every 3 months. These inspections must take place anytime during January - March, April - June, July - September and October - December as long as there is a minimum of 30-days between inspections.

c. Monthly Inspections are required for all PCB items in the PCB storage facilities.

d. Weekly Inspections are required for transformers, electromagnets, switches and voltage regulators with a PCB concentration of 500 ppm or greater that pose an exposure risk to food or feed. Note: If still in use, call the NOAA RECO immediately to arrange for removal and disposal. These PCB items were prohibited from use on October 1, 1985. Weekly inspections are also required for PCB large high voltage capacitors and PCB-contaminated electrical equipment temporarily stored outside a PCB storage facility [40 CFR 761.65(c)(2)].

e. Daily Inspections are required for all leaking transformers until the leak has been repaired and all residue cleaned up. The inspector must verify that the leak is contained and is not contaminating the surrounding area.

The regulations require these visual inspections to include an investigation for any leak of dielectric fluid on or around the transformer. The extent of the visual inspection will depend on the physical constraints of each transformer installation and should not require an electrical shutdown of the transformer being inspected.

12.5.4 Inspector Qualifications

These inspections may be performed by any activity personnel who understands the PCB inspection procedures and knows the proper PCB spill (or leak) reporting actions. Inspectors may be an electronic technician (ET), sector facility technician (SFT), environmental focal point, etc.

TABLE 12-1

TSCA PCB INSPECTION REQUIREMENTS (40 CFR 761.30)

TRANSFORMERS (in service or in storage for reuse)

Leaking	**Daily [40CFR 761.30(a)(1)(iii)] until leak is repaired**
Intact w/>500 ppm and w/food or feed risk	**Weekly [40 CFR 761.30(a)(1)(xii] Note: This item is prohibited after 1 Oct 85.**
Intact w/>60,000 ppm and w/o secondary containment	**Quarterly [40 CFR 761.30(a)(1)(ii)]**
Intact w/>60,000 ppm and w/secondary containment	**Annually [40 CFR 761.30(a)(1)(v)(A)]**
Intact w/500-60,000 ppm	**Annually [40 CFR 761.30(a)(1)(v)(B)]**
Intact w/<500 ppm	**None**

ELECTROMAGNETS, SWITCHES AND VOLTAGE REGULATORS

w/>500 ppm and w/food or feed risk	**Weekly [40 CFR 761.30(h)(1)(ii)] Note: These items are prohibited after 1 October 85)**
Others	**None**

STORAGE AREAS

Items inside storage	**Monthly [40 CFR 761.65(c)(5)]**
Items temporarily stored outside storage area [See 40 CFR 761.65(c)(2)]	**Weekly [40 CFR 761.65(c)(2)]**

CAPACITORS, CIRCUIT BREAKERS, RECLOSERS AND ELECTRIC CABLE

	None

12.5.5 Inspection Log

The facility or work site must keep formal records of each inspection. The records must be entered in ink. The records must include the following information [40 CFR 761.30(a)(1)(xii)]:

a. name and title of inspector
b. location and identification of PCB item
c. date of inspection (and date of leak or spill discovery if different from normally scheduled inspection)
d. location of leak or spill
e. estimate of amount of PCB liquid released from the leak or spill
f. date and description of all containment, clean-up, repair or replacement measures taken in response to the leak or spill
g. results of containment.

Attachment B is an example of an activity PCB transformer inspection log sheet that may be used to record inspections. The first two columns give the date and inspector's initials. Columns 3-8 are to ensure that the inspector checks the problem areas on typical transformers. Column 9 is for ensuring that the spill containment equipment (beams, dikes, drip pans, etc.) are in working order. The 10th column is the result of the amendments to the regulations to prevent fires involving PCBs. The EPA regulations prohibit storing combustible materials within 5 meters (about 16.4 feet) of a PCB transformer or its enclosure. Inspectors must check to verify that combustible materials are not stored near PCB transformers. The last column is used to reference write-ups of any servicing or work done on or near transformers. A separate inspection log sheet is prepared for each PCB transformer listed on the activity PCB inventory.

The inspection records shall be maintained for at least three (3) years after the PCB item is disposed. The records shall be readily available for review by regulatory officials during regulatory agency TSCA inspections.

If a leak or spill is discovered during an inspection or during normal operations, proper reporting and containment procedures must be followed.

12.6 Elimination of PCB Transformers in or Near Buildings

On July 17, 1985, the EPA promulgated additional restrictions and conditions on the use of PCB Transformers containing 500 ppm or greater PCBs. The ruling came after a lengthy evaluation of the risks posed by the continued use of electrical transformers containing PCBs. Studies involving several major PCB transformer-related fires also greatly contributed to the EPA's evaluation and subsequent ruling. The rule prohibits:

a. The continued use of higher secondary voltage network PCB transformers (network PCB Transformers with secondary voltages at or above 480 volts, including 480/277 volt systems) in or near commercial buildings beyond October 1, 1990.

b. The further installation of PCB Transformers (which have been placed into storage for reuse) in or near commercial buildings.

The rule also requires:

a. The installation of enhanced electrical protection on lower secondary-voltage network PCB Transformers and on higher secondary-voltage radial PCB Transformers (with secondary voltages at or above 480 volts, including 480/277 volt systems) used in or near commercial buildings.

The required installation must:

i. allow early detection of sustained low-current faults; and
ii. be able to completely de-energize the transformer prior to failure.

12.7 Registration of Transformers

Previously, all PCB transformers were required to be registered with the local fire department response personnel by December 1, 1985. A study by EPA determined that, for the most part, this registration did not occur.

To correct this gap in knowledge, the EPA now requires a one-time registration of PCB transformers as a condition of the "authorization for continued use."

Transformers that are in use, or in storage for reuse must be registered even if previously registered with the fire department. Persons taking possession of a registered transformer will not be required to re-register it.

Any PCB transformer not registered will not be authorized for use and must be disposed.

If a transformer is assumed to be PCB contaminated but later determined to contain more than 500 ppm PCBs, it must be registered within 30 days of the discovery if there are no other PCB transformers at the location that had been registered.

The registration requires:

- facility name and address
- contact name and telephone number
- location of transformer(s) (address, or for a mobile source like a ship, the name of the ship)
- number of PCB transformers and total weight of transformers in kilograms
- whether any transformers contain flammable dielectric
- signature of owner, operator, or other authorized individual.

The EPA has created EPA Form No. 7720-12 for this registration but the use of the form is optional. The deadline for the registration was December 26, 1998.

12.8 PCB Manifesting

On December 21, 1989 the EPA published a final rule which significantly modified the PCB management programs. The final rule applied restrictions similar to those for hazardous waste under RCRA with some significant differences. These regulations had an effective date of February 5, 1990.

a. Definitions

The EPA created several new definitions. Among these are the following:

i. **Generator** - A generator of a PCB waste is "any person whose act or process produces PCBs that are regulated for disposal under TSCA...". While this definition is similar to that for a generator under RCRA, it does have one major difference -it is not site specific. The TSCA definition will allow a generator with several sites or related companies to consolidate their PCB wastes at one site prior to shipment off-site for disposal. It is important to note that there is one exception to this rule. Owners, users, or processors of PCB items who maintain their own storage facility in accord with 40 CFR 761.65(b) must submit a notification and receive a unique identification number for each storage facility.

ii. **Commercial Storer** - A commercial storer of PCB waste is the owner or operator of a facility that is subject to the requirements of 40 CFR 761.65(b) 1 or (c)(7) or meets the criteria of §761.65(b)(2) and who engages in the storage of PCB wastes generated by others or was removed while servicing equipment owned by others and brokered for disposal. The EPA cautions that a storer need not receive compensation for this service to qualify as a commercial storer. The EPA has included a de minimus quantity standard such that a facility that stores less than 500 gallons would not be required to obtain EPA approval as required by §761.65(d). Similarly, a generator that stores his own PCB waste is not required to seek EPA approval unless the waste was removed while servicing equipment owned by others. In June 1998, the EPA expanded this definition to clarify that storage by a "related company" (i.e. parent company, subsidiary, sibling or member of a cooperative does not require EPA approval. These facilities must still comply with the facility standards in §761.65 and the recordkeeping requirements in §761.180

iii. **Laboratory Wastes** - Laboratory samples are regulated the same as RCRA hazardous waste samples. Samples are exempt from regulation as long as they are awaiting or undergoing analysis. Once the analysis is complete and there is no use for the sample, it becomes regulated. As with all PCB wastes, dilution to less than 50 ppm to escape regulation is prohibited.

iv. **Transfer Facility** - a TSCA transfer facility is the same as a RCRA transfer facility. This is any transportation related facility where shipments of PCBs are held in the normal course of transportation. Such facilities are exempt from regulation if they store the PCBs for 10 days or less.

v. **Transporter** - A transporter of PCB wastes is any person engaged in the off-site transportation by air, rail, highway, or water of regulated PCB wastes, for purposes other than consolidation by a generator. This definition in the final rule specifically excludes the transportation of PCB wastes by a generator for consolidation prior to off-site disposal. This exclusion will allow the generator who has several sites to transport the PCBs and consolidate the PCBs without being considered a transporter.

vi. **PCB Waste** - A PCB waste regulated by this rule includes those "PCBs and PCB Items that are subject to the disposal requirements of Subpart D" of Part 761. The regulated items include such things as:

- PCBs and PCB Items that have served their intended purpose and are to be disposed,

- Laboratory samples after they are no longer used for analytical or enforcement purposes,

- Spill clean-up residues over 50 ppm PCBs.

The definition does not include items such as intact, non-leaking small capacitors and drained PCB contaminated transformers.

b. Notification

The final rule requires certain generators and all disposers, transporters, and commercial storers of PCB wastes to notify the EPA of their activity. For this effort, each notifier will receive a unique EPA identification number. If a facility notified under RCRA, the EPA ID number will be the same, but the facility must still notify again.

Generators who do not maintain storage areas that store PCBs or PCB Items with a concentration greater than 50 ppm are not subject to the §761.65 storage facility standards and hence do not have to notify. These generators however are required to use the characters "40 CFR PART 761" on the manifest in lieu of a unique facility identification number.

All other generators, all disposers, transporters, and commercial storers must notify and subsequently use their specific identification number.

Effective August 18, 1998, whenever there is a change in PCB activity, the EPA must be notified within 30 days of the change.

c. Manifesting

Effective February 5, 1990, the shipment of all PCB wastes must be accompanied by a Uniform Hazardous Waste Manifest completed as required by the TSCA requirements in 40 CFR Part 761.207.

i. Manifest Content

The manifest must be initiated by all generators of PCB wastes at concentrations of 50 ppm or greater prior to shipment off-site to a disposal facility or PCB wastes where the concentration is below 50 ppm due to dilution. Each manifest must have:

- a manifest document number which consists of the EPA 12-digit identification number plus a unique suffix of up to 5 digits added by the generator;
- the page number and the total number of manifest pages on each sheet of the manifest;
- the generator's name and address;
- the generator's telephone number;
- the name and EPA identification number of each transporter;
- the name, site address, and EPA ID number of the disposal facility;
- the number and type of containers;
- the US DOT description which is either "RQ, Hazardous Substance, liquid or solid, n.o.s., ORM-E, NA 9188 (Polychlorinated biphenyls or PCBs)" or "RQ, ORM-E, liquid or solid, n.o.s., NA 9188, (Polychlorinated biphenyls or PCBs)". The letters "RQ" can be at the beginning or the end of the DOT basic description;
- special handling instructions including the date the item was removed from service;
- a generator certification; and,
- a transporter's signature.

If the state does not require use of another code, the waste code PCB 1 should be used for PCB articles, while PCB 2 is used for PCB containers.

When the waste is delivered to the disposal facility, the following items are to be completed on the manifest:

- any discrepancies in the shipment,

- an acknowledgement by the disposal facility that the shipment was acceptable.

ii. Manifest Use

The manifest will be initiated by the generator, who has the transporter sign upon pick-up. The generator then removes one copy and gives the remaining copies to the transporter who delivers the manifest with the waste to the disposal facility. Upon delivery, the disposer signs the manifest, provides the transporter with a copy and mails a copy back to the generator.

Of course, if a state modified manifest is used, additional copies of the document may have to be sent to various state agencies by both the generator and the disposal facility.

iii. Manifest Protocol

In a rule identical to RCRA, the EPA has required generators to use the manifest according to the following protocol:

- if the state where the disposal facility is located has a state-modified uniform manifest, this version will be used.

- if the disposer state does not have a state-modified manifest but the state where the generator is located does, the generator's state modified version shall be used.

- if neither state has a state modified version, any pre-printed version may be used.

12.9 Records

a. Manifests

Manifests must be retained for at least 3 years after the date of shipment.

b. Exception Reports

Exception reports must be filed if the disposal facility has not returned the generator's copy of the manifest. The generator is required to begin efforts to locate the manifest 35 days after shipment and file the Exception Report detailing the result of the investigation within 45 days. This report also includes a legible copy of the manifest and a cover letter explaining the generator's actions.

c. One-Year Exception Reports

The existing regulations limit the time PCBs can be stored prior to disposal to one year. Since generators normally store these wastes for some time prior to shipment to a disposal facility, compliance with this requirement has always been a problem. Generators had been assumed to be in compliance with the requirement if they shipped the waste to the facility before 9 months had passed since the PCB was removed from service.

To aid in compliance, the EPA requires the submission of one-year Exception Reports by:

- disposers when they receive PCBs or PCB Items on a date more than 9 months after they are removed from service as indicated by the manifest or continuation sheet and because of other disposal commitments, the disposer could not dispose of the PCBs prior to one year of their removal from service.

- generators and commercial storers of PCB waste who transfer PCBs or PCB Items to disposers when:

  * the generator or storer had transferred the PCBs prior to the expiration of 9 months from date of removal from service but had not received a Certificate of Disposal from the facility within 13 months of this removal.

  * the Certificate of Disposal indicates a date of disposal which is more than 1 year after placement into storage or disposal.

d. Certificate of Disposal

The EPA now requires the disposer to provide the generator with a certificate indicating the date of disposal.

e. Discrepancy Reports

If a disposer receives a PCB waste which is different in type or quantity than the waste designated on the manifest, the disposer must attempt to reconcile the differences. If the discrepancy is not resolved within 15 days, a Discrepancy Report must be filed with the EPA.

f. Unmanifested Waste Report

If a disposer receives a PCB waste without a manifest, the disposer must file a Unmanifested Waste Report within 15 days providing;

- the EPA ID number, name and address of the disposer;
- the date received;
- the EPA ID number, name and address of the generator and transporter, if available;
- the method of storage or disposal;
- a certification; and,
- a brief explanation of why the waste was unmanifested, if known.

g. Annual Reports

The final rule requires owners or operators of facilities that are neither a commercial storer or disposer to retain "records" and "annual document logs" but does not require submission of an annual report. Records are described by the EPA as manifests and certificates of disposal. The annual document logs includes the facility's EPA ID number, manifest numbers of PCB wastes disposed during the year and a summary of other data.

Disposers and commercial storers will compile the annual document log as required by 40 CFR Part 761.180(b) and then prepare a brief summary for submission as the annual report.

12.10 Emergency Planning and Response Requirements

There are two types of emergencies associated with PCB items: (1) leaks or spills, and (2) fires involving PCB electrical equipment. This section covers the impact of these emergencies and then covers the proper prevention and contingency procedures. Prevention procedures are those procedures and the associated equipment set up to prevent the spill or fire from occurring. Contingency procedures refer to the response to the spill or fire once it has happened. In both these cases, spills and fires, it is preferable that they never occur and so prevention planning is very important. However, if an emergency does occur, it is essential that the response plan has been formulated and that all personnel involved in the emergency know exactly how to respond.

12.10.1 PCB Leak Response

EPA defines a "leak" to be any instance in which a PCB item has any PCBs on any portion of its external surface. If a PCB item is found to have a "leak," it must be cleaned-up or contained and repaired as soon as possible. The regulations require that the work be initiated (not completed) within 48-hours of discovery. The leaking item must be inspected daily until the leak has been repaired and cleaned-up to ensure that the leak is contained so that it does not contaminate the surrounding area. Containment of the leak can be any method which contains the leak such as buckets, drip-pans, plastic bags full of sorbant, etc.

12.10.2 PCB Spills

Because PCB spills are regulated as hazardous substance spills, all responders must be specially trained. As a result, in the event of a PCB spill, NOAA policy is to:

a. Evacuate all personnel
b. Assist injured if risks allow
c. Call 911 or other outside response agency
d. Call the NOAA RECO who must in turn contact the National Response Center within 24-hours of a release if more than a total of 1 pound of PCB-containing material is released.
e. Within 48-hours of notification, the RECO should prepare a written report outlining the steps taken for notification, who was notified, when they were notified and the details of the spill.

Unless trained as emergency responders, NOAA personnel may not attempt to respond to a spill of PCBs.

12.11 Disposal of PCBs

12.11.1 Temporary Storage

Upon removal from service, PCBs and PCB items must be stored properly. In 40 CFR 761.65(c)(1), the EPA allows temporary storage for up to 30-days for:

a. non-leaking PCB equipment
b. leaking PCB items - if placed in non-leaking containers with absorbant
c. containers of non-liquid PCB-contaminated soil, rags or debris from PCB spill clean-up
d. containers with 50 to 500 ppm PCBs, however a SPCC Plan specifically addressing PCBs is required.

This storage area must have spill containment (sandbags, drip-pans, etc.) And stored items must be isolated from drains waterways, sewers, etc.

While in storage, all items must be marked:

a. with the PCB marking
b. the date placed in storage

The items in storage must be inspected weekly and the inspections recorded.

12.11.2 Disposal Options

Depending on the item and the concentration of the PCBs, the disposal options vary considerably.

Attachment C summarizes the disposal options for the ballasts from fluorescent light fixtures.

Attachment D summarizes the disposal options for a variety of other PCB items.

For assistance in securing the services of a disposal facility, consult with the NOAA Regional Environmental Compliance Officer (RECO).

12.12 Responsibilities

12.12.1 NOAA Headquarters

a. The NOAA Environmental/Safety Office shall perform an annual assessment of the NOAA headquarters facilities to ensure that the facilities are in compliance with this section.

b. The NOAA Environmental/Safety Office shall periodically perform an assessment of the regional headquarters and field offices to ensure compliance with this section. The frequency of these regional and field office assessments shall be determined by the NOAA Environmental/Safety Office.

c. Requests for clarification concerning this section shall be directed to the NOAA Environmental/Safety Office.

12.12.2 Regional or Operating Unit Environmental/Safety Coordinator

a. Shall monitor and coordinate to promote compliance with the requirements of this procedure for the regional headquarters and field offices or operating units.

b. Shall ensure that procedures are developed at regional headquarters or operating unit facilities.

c. Shall perform an annual assessment of the regional headquarters facilities or operating unit to monitor and promote compliance with the requirements of this section.

d. Shall perform assessments or designate personnel to perform assessments of all field offices to monitor and promote compliance with the requirements of the section.

12.12.3 Designated Responsible Official

a. Shall have oversight over the implementation of this section and ensure that the requirements of this section are followed by individuals at the NOAA facility.

b. Shall ensure sufficient personnel and funding are available to enable compliance with all applicable requirements of this section.

c. Shall ensure that procedures are developed at NOAA field offices for management of PCBs on-site.

d. Shall ensure NOAA employees follow the requirements of this section.

e. Shall review or delegate review of this section on an annual basis to ensure that the facility is complying with its requirements. Confirmation of this review shall be forwarded to the Regional or Operating Unit Environmental/Safety Coordinator.

12.12.4 Facility Environmental Coordinator, Environmental and/or Safety Focal Point or Designated Person

a. Shall ensure that any tasks delegated to them by the Designated Responsible Official are implemented in accordance with the requirements of this section.

12.12.5 Employees

a. Individual employees affected by this section are required to read, understand and comply with the requirements of this section.

b. Report all violations of the requirements of this section to their supervisor or Environmental Focal Point.

12.13 References

Incorporated References

The following list of references is incorporated as a whole or in part into this section. These references can provide additional explanation or guidance for the implementation of this section.

12.13.1 U.S. Environmental Protection Agency

40 CFR 761 "Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce and Use Prohibitions"

40 CFR 761.30(a) Use in and servicing of transformers
40 CFR 761.50 Subpart D - Storage and Disposal - Applicability
40 CFR 761.62 Disposal of PCB bulk product waste
40 CFR 761.65 Storage for disposal

Attachment A

PRELIMINARY PCB INVENTORY DATA COLLECTION FORMAT

A. TRANSFORMERS

Item Identification: _____

Specific Location: _____

Manufacturer: _____

Other Name plate Information: _____

KVA Rating: _____

Type of Dielectric Fluid: _____

Fluid Weight: _____ pounds (kgs)

Fluid Volume: _____ gallons

PCB Concentration: _____ ppm Date Tested: _____/_____/_____ (mo day yr)

Marked * as PCB? **Yes / No**

Poses an Exposure Risk to Food or Feed*? **Yes / No**

In or Near Building* (Other than Substation)? **Yes / No**

If yes describe building usage: _____

Is building commercial? **Yes / No**

Network* Configuration? **Yes / No**

Radial* Configuration? **Yes / No**

Higher Secondary Voltage*? **Yes / No**

Equipped with enhanced Electrical Protection*? **Yes / No**

If yes describe: _____

_____

Reclassified? **Yes / No** Date Completed: _____/_____/_____ (mo day yr)

Describe Process: _____

Final PCB Concentration: _____ppm after reclassification Date Tested: _____/_____/_____ (mo day yr)

Note: Words identified by asterisk (*) are defined in Section 12.2 - Definitions.

Attachment A (Continued)

PRELIMINARY PCB INVENTORY DATA COLLECTION FORMAT

B. CAPACITORS

Item Identification: _____

Location: _____

Size: **small / large*** Note: Small capacitors need not be listed.
(Circle one)

Voltage: **high / low***
(Circle one)

Number of capacitors in Equipment: _____

Manufacturer: _____

Date Manufactured: _____/_____/_____
mo day yr

Other Name plate Information: _____

Is location Restricted Access*? **Yes / No**

Marked* as PCB: **Yes / No**

C. HEAT TRANSFER EQUIPMENT

Item Identification: _____

Location: _____

Description: _____

Quantity of Heat Transfer Fluid: _____ gallons

Date Tested: _____/_____/_____
mo day yr

PCB Concentration: _____ppm

Date Drained/Refilled: _____/_____/_____
mo day yr

Date Retested: _____/_____/_____
mo day yr

PCB Concentration: _____ppm

After draining/refilling

Marked as PCB? **Yes / No**

Note: Words identified by asterisk (*) are defined in Section 12.2 - Definitions.

Attachment A (Continued)

PRELIMINARY PCB INVENTORY DATA COLLECTION FORMAT

D. HYDRAULIC EQUIPMENT

Item Identification: _____

Location: _____

Quantity Fluid: _____ gallons

Date Tested: _____/_____/_____
mo day yr

PCB Concentration: _____ppm

Date Drained/Refilled: _____/_____/_____
mo day yr

Date Retested: _____/_____/_____
mo day yr

PCB Concentration after draining/refilling: _____ppm

Marked* as PCB? **Yes / No**

E. ELECTROMAGNETS, SWITCHES, VOLTAGE REGULATORS, CIRCUITBREAKERS, RECLOSURES, CABLE

Item Identification: _____

Location: _____

Quantity Fluid: _____ gallons

PCB Concentration: _____ppm Date Tested: _____/_____/_____
mo day yr

Poses an Exposure Risk to Food or Feed*? **Yes / No**

Marked* as PCB? **Yes / No**

Reclassified? **Yes / No** Date: _____/_____/_____
mo day yr

Describe Process: _____

_____

Final PCB Concentration: _____ppm Date Tested: _____/_____/_____
mo day yr

Note: Words identified by asterisk (*) are defined in Section 12.2 - Definitions.

Attachment B

PCB INSPECTION AND SERVICING LOG FORMAT

Item Location _____

Item Identification _____

Item Description _____

DATE	INSPECTOR'S NAME	Check Each, + or - *								SUMMARY OF INSPECTION/SERVICE: Description of inspections and servicing. If leaks or spills are observed, attach Spill/Leak Report Form.	IF OVER 10 LBS., SPILL REPORT FILED?
		BUSHINGS	GAUGES	VALVES	FINS	INSPECTION PORTS	TAP CHANGES	SPILL EQUIPMENT AVAILABLE	ARE COMBUSTIBLE MATERIALS WITHIN 5 M		

* + Indicates good condition; - Indicates a deficiency

Attachment C

DISPOSAL REQUIREMENTS FOR FLUORESCENT LIGHT BALLASTS

PCB Capacitor	PCB Concentration	Labeling, Transportation and Manifesting for Disposal	Disposal Reference in §761	Disposal Options*
Labeled "No PCBs"		Not regulated	N/A	Not regulated
Not labeled "No PCBs"	<50 ppm	Not regulated	N/A	Not regulated
Not labeled "No PCBs" or Intact and non-leaking	≥ 50 ppm	Is a PCB bulk product waste. No labeling is required. Manifesting is required for disposal in accordance with §761.62(a); is not required under §761.62(b); may be required under §761.62(c).	.50(b)(2)(ii) .62(a)-(c)	EPA-permitted Incinerator or Landfill, or EPA-approved Alternate Destruction Method, or Decontamination (§761.65(d) storage approval may be required), or Coordinated approval, State approved landfill (leach test required), or Risk-based approval.
Intact and non-leaking	<50 ppm	No labeling or manifesting required	.50(b)(2)(i) .60(b)(2)(ii)	As municipal solid waste 40 CFR 761 Subpart D options
Leaking	<50 ppm or ≥ 50 ppm	Disposal as PCB bulk product waste. No labeling is required. Manifesting is required for disposal in accordance with §761.62(a); may be required under §761.62(c).	.62(a) or (c)	EPA-permitted Incinerator or Landfill, or EPA-approved Alternate Destruction Method, or Decontamination (§761.65(d) storage approval may be required), or Coordinated approval, or Risk-based approval.

***Disposal options are based on EPA regulations. State and local rules may be more stringent.**

Attachment D

EPA-APPROVED DISPOSAL METHODS

Item	Method		
	Incineration	Chemical-waste Landfill	Alternative
Liquid PCBs (includes mineral-oil dielectric fluid from PCB-contaminated liquids at concentrations between 50-500 ppm)	Acceptable	Acceptable if information is provided showing PCB level is not above 500 ppm, and if liquid is not an ignitable waste and is containerized or stabilized. Prohibited after 17 July 1987 by RCRA Liquid Landfill Ban.	High-efficiency boiler that meets required criteria, or alternative disposal method approved by the EPA
Liquid PCBs (concentrations above 500 ppm)	Acceptable	Not acceptable	Alternative disposal method approved by the EPA
Non-liquid PCBs (contaminated soil, rags and other debris)	Acceptable	Acceptable	None
Municipal sewage, treatment sludge and dredged materials	Acceptable	Acceptable	Alternative method approved by the EPA
PCB transformers	Acceptable	Acceptable if drained, filled with solvent, allowed to stand for 18-hours and then drained	None
Large high or low-voltage PCB capacitors	Acceptable	Not acceptable	None
Small PCB capacitors (owned by manufacturers of PCB capacitors or PCB equipment and acquired in the course of such manufacturing)	Acceptable	Not acceptable	None
Small PCB capacitors (other than the above)	Acceptable	Acceptable	Municipal solid waste
PCB hydraulic machines (if drained of free flowing-fluid)	Acceptable	Acceptable	Municipal solid waste
Other PCB articles	Acceptable	Acceptable if free-flowing liquid is drained prior to disposal	None
PCB containers (not decontaminated)	Acceptable	Acceptable if liquid PCBs are drained	None
PCB containers (containing only PCBs at concentrations below 500 ppm)	Acceptable	Acceptable	Municipal solid waste if liquid PCBs are drained
PCB containers (decontaminated)	Acceptable	Acceptable	Reuse or municipal solid waste